

R17

Code No: 5402BZ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech II Semester Examinations, June/July - 2019

ENERGY FROM WASTE

(Common to CAD/CAM, VLSISD, ES&VLSID, ED, DSCE, SE, VLSI&ES, HE, AMS,
DECS, TE, EE, HVAC, CS, MD, CSE)

Time: 3hrs

Max.Marks:75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

5 × 5 Marks = 25

- 1.a) What are the properties of solid waste? [5]
- b) What is the need for monitoring landfills? [5]
- c) Discuss the effect of direct combustion of Municipal Solid Waste. [5]
- d) What are the different methods of energy conversion? [5]
- e) Justify the statement that e-recycling is a thriving economy of unorganized sector. [5]

PART - B

5 × 10 Marks = 50

- 2.a) Classify solid waste based on type, composition and properties.
 - b) Discuss the importance of recycling of municipal waste. [5+5]
- OR**
3. Explain in detail the process of obtaining energy from solid waste. [10]
- 4.a) Explain the different methods of Solid waste disposal.
 - b) What is meant by layout and design of landfill? Explain. [5+5]
- OR**
5. What is the need for control of landfill from environmental point of view? [10]
- 6.a) Classify the types of wastes for energy generation.
 - b) Explain the anaerobic digestion process of sewage waste. [5+5]
- OR**
7. Discuss the advantages and limitations of solid waste combustion. [10]
- 8.a) How is gas generated from landfills? How is it different from biogas with respect to composition and properties?
 - b) Explain how briquets are processed from solid waste. [5+5]
- OR**
9. Discuss the environmental benefits of energy conversion by bio- and thermo-chemical processes. [10]
- 10.a) Discuss the options available for handling of e-waste from electrical and electronics industries in India.
 - b) What are the government regulations on e-waste management? [5+5]
- OR**
11. Discuss the growth of electronics industry in India and the environmental concerns associated with it. [10]